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May 20, 2004

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Application No. : 2,373,957
Owner : HITACHI, LTD.; HITACHI ENGINEERING CO., LTD.
Title : RADIOACTIVE SUBSTANCE DECONTAMINATION METHOD AND APPARATUS
Classification : G21F-9/28
Your File No. : 47555
Examiner : David Green

YOU ARE HEREBY NOTIFIED OF :

- A REQUISITION BY THE EXAMINER IN ACCORDANCE WITH SUBSECTION 30(2) OF THE *PATENT RULES*;
- A REQUISITION BY THE EXAMINER IN ACCORDANCE WITH SECTION 29 OF THE *PATENT RULES*.

IN ORDER TO AVOID **MULTIPLE ABANDONMENTS** UNDER PARAGRAPH 73(1)(A) OF THE *PATENT ACT*, A WRITTEN REPLY TO **EACH REQUISITION** MUST BE RECEIVED WITHIN **6 MONTHS** AFTER THE ABOVE DATE.

This application has been examined as originally filed.

The number of claims in this application is 14.

The examiner has identified the following defects in the application:

A search of the prior art has revealed the following:

References Applied:

United States Patents

5 386 078	Jan. 31, 1995	G21F-9/00	Hanulik
4 478 060	Oct. 23, 1984	D06F-31/00	Grunewald

Canadian Patent

1 224 025	July 14, 1987	G21F-9/00	Murray et al
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Hanulik discloses a method for decontaminating metal surfaces, in which a metal object is placed in a series of baths of a reducing decontaminating agent.

Grunewald discloses a continuous washing machine, in which a series of washing compartments are connected in series by a countercurrent flow conduit, so that as items to be washed move through the series of compartments, recycled washing liquid is moved in the opposite direction through the compartments, so as to make more efficient use of washing resources.

Murray et al disclose a process of decontaminating metal surfaces in a nuclear power reactor, in which a reducing decontamination step is alternated with an oxidizing decontamination step.

The claims on file do not comply with Section 28.3 of the *Patent Act*. The subject matter of these claims would have been obvious on the claim date to a person skilled in the art or science to which they pertain having regard to Hanulik, Grunewald and Murray et al.

Both Hanulik and Murray et al. disclose methods of decontamination metal surfaces by application of decontaminating agents in the form of decontaminating solutions. Hanulik discloses that the metal items are decontaminated by placing them in a tank containing the decontaminating agent, while Murray discloses alternating between an oxidizing agent and a reducing agent. It would have been entirely obvious to one skilled in the art to have performed the two-agent process of Murray in a tank arrangement as disclosed by Hanulik. As well, the feature of reusing the decontaminating agent from one tank with one level of a radiation control value in another tank with a different radiation control value would have been obvious, as such re-use is common in the analogous art of industrial washing, as shown in Grunewald. As such, these claims must be amended to clearly define a patentable advance in the art.

Claim 2 is indefinite and does not comply with Subsection 27(4) of the Patent Act. This claim, which is dependent on claim 1, refers to "the reducing decontamination tank to which said tube is not connected". However, there is no such tank recited in claim 1. As such, this claim must be amended to clarify its intent.

Claims 4, 7 and 12 are indefinite and do not comply with Subsection 27(4) of the Patent Act. These claims all recite that the metal member is immersed in the oxidizing decontamination tank while it is being carried from one reducing tank to another. This is considered to be indefinite, in that the step of immersing the member in the oxidizing tank would seem to interrupt the process of carrying the member between tanks. As such, these claims must be amended to claim their subject matter more accurately.

Claim 11 is indefinite and does not comply with Subsection 27(4) of the Patent Act. This claim, which is dependent on claim 7, is directed to a method, while claim 7 is directed to an apparatus. It appears as if this claim should in fact be dependent on claim 9.

Claim 13 is indefinite and does not comply with Subsection 27(4) of the Patent Act. This claim, which is dependent on claims 9 to 12, refers to an oxidizing decontamination tank. However, there is no such tank recited in claims 9 to 11.

Claims 1, 3, 7 to 10 and 12 are indefinite and do not comply with Subsection 27(4) of the Patent Act. The following terms have no antecedents:

- "the second reducing decontamination tank" (claims 1, 3 and 9, lines 11 to 12, 7 to 8 and 8 to 9);
- "the second value" (claims 1 and 3, lines 13 and 9);
- "said first value" (claims 1 and 3, lines 13 and 9);
- "the first reducing decontamination tank" (claims 1, 3 and 9, lines 14 to 15, 10 to 11 and 5);
- "the first value" (claims 1 and 3, lines 16 and 12);
- "the reducing decontamination agent" (claim 3, line 5);
- "thedesending order of..." (Claim 7, line 13);
- "the second metal member" (claims 8 and 10, lines 6 and 3);
- "the tank other than..." (Claim 8, lines 6 to 7);
- "the first metal member" (claim 8, line 7);
- "the first radiation control value" (claim 9, lines 5 to 6);
- "the specified value" (claim 9, line 12); and
- "said oxidizing decontamination tank" (claim 12, lines 5 to 6).

Claims 1, 10, 12 and 13 do not comply with Subsection 27(4) of the Patent Act. The double inclusion of any element is not permissible in the claims. The following terms have already been defined previously in the claims:

- "a washing tank" (claims 1, 10 and 13, lines 22, 6 and 7);
- "a decontamination tank" (claim 19, line 6);
- "a metal member" (claims 12 and 13, lines 4 and 4); and
- "reducing decontamination tanks" (claim 13, lines 5 to 6).

The aforementioned terms should therefore be referred to using a definite article.

Claim 14 does not comply with Subsection 27(4) of the Patent Act. The inclusion of "and/or" causes a lack of clarity.

The drawings must be amended to comply with Section 82 of the Patent Rules. The same reference character must be used for the same part in different figures, and must not be used to designate different parts. On page 11, line 20, references to valves V17a and V19a should refer to V7a and V9a, as used in the figures. On page 17, line 18, there is a reference to valve V23a, which appears to be labelled simply V23 in the figures. On page 18, line 21, a reference to valve V19a should refer to valve V10a. In figure 3, the leftmost tank is labelled 2a, when it should be 3a, in accordance with the description page 19, line 10, and elsewhere.

This application does not comply with Subsection 27(3) of the Patent Act. The specification does not correctly and fully describe the invention and its operation or use. On page 20, line 16, a calculation is done to determine the amount of oxalic acid to be used. This calculation determines an amount different from that calculated by the same calculation done on page 3

line 16 (6 kg vs. 7.4 kg). As such, the description must be amended to clarify the disclosed amounts.

In addition to this, in claim 9 line 23, the phrase "to as to" should be "so as to".

In view of the foregoing defects, the applicant is requisitioned, under Subsection 30(2) of the Patent Rules, to amend the application in order to comply with the Patent Act and the Patent Rules or to provide arguments as to why the application does comply.

Under Section 29 of the *Patent Rules*, applicant is requisitioned to provide an identification of any prior art cited in respect of the United States and European Patent Office applications describing the same invention on behalf of the applicant, or on behalf of any other person claiming under an inventor named in the present application, and the patent numbers, if granted. Amendment to avoid references cited abroad may expedite the prosecution. In accordance with Subsection 29(3) of the *Patent Rules*, if the particulars are not available to the applicant, the reason why must be stated. Accordingly, if the applicant did not apply for a patent in a foreign country, it must be stated.

The above requisitioned information must be provided regardless of the current status of the foreign applications.

David Green
Senior Examiner
819-994-8213